



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,550	12/29/2000	Ritesh Trivedi	42390P10725	1451

7590 05/19/2003

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
12400 Wilshire Boulevard  
Seventh Floor  
Los Angeles, CA 90025-1026

EXAMINER

MAI, SON LUU

ART UNIT PAPER NUMBER

2818

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/752,550

Applicant(s)

TRIVEDI ET AL.

Examiner

Son L. Mai

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 46-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55-60 is/are allowed.
- 6) ☒ Claim(s) 46, 47, 50-53 and 61-67 is/are rejected.
- 7) ☒ Claim(s) 48, 49 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The amendment filed 04-21-03 has been entered. Accordingly, claims 46-67 are pending.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 52, and 61-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 52 recites the limitations "the first drain bias circuit" in line 3 and "the second drain bias circuit" in line 5. There are insufficient antecedent bases for these limitations in the claim.

As for claim 61, the phrase "reference input node" in lines 18, should read – sense input node-- because there must be a reference input node and a sense input node to a sense amplifier. And an article "a" should be added before the phrase "reference input node" in lines 21.

Claims 62-66 are rejected for in their dependency they include the language of a rejected base claim.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2818

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 46-47, 50-53 and 67 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,694,427 issued to Miyamoto et al. (herein after "the Miyamoto reference")

Regarding claim 46, the Miyamoto reference teaches a method comprising:  
receiving a signal pulse (signal PCS in fig. 1); and in response to the signal pulse:  
pulling a voltage of a sense input node (node 31) for a non-volatile memory cell (15) to a voltage potential of a voltage source ( $V_{DD}$ ); pulling a voltage of a reference input node (node 33) for a reference cell (18) to the voltage potential of the voltage source; and shorting a sense node for the non-volatile memory cell to a reference node for the reference cell (when signal PCS is applied to transistor 37).

Regarding claim 47, the Miyamoto reference teaches that the non-volatile memory cell comprises a flash memory cell (col. 2, lines 53-54).

Regarding claim 50, the Miyamoto reference teaches shorting the sense node to the reference node comprises enabling a semiconductor device (transistor 37) coupled between the sense node and the reference node.

Regarding claim 51, the Miyamoto reference describes that enabling the semiconductor device (transistor 37) coupled between the sense node (node 31) and the reference node (node 33) equalizes a voltage potential of the sense node with a voltage potential of the reference node during bit charging (col. 3, lines 56-60).

Regarding claim 52, the Miyamoto reference teaches that pulling the voltage potential of the sense node (node 31) to the voltage potential of the voltage source

Art Unit: 2818

( $V_{DD}$ ) minus the voltage across a first drain bias circuit (transistor 35); and pulling the voltage potential of the reference node (node 33) to the voltage potential of the voltage source ( $V_{DD}$ ) minus the voltage across a second drain bias circuit (transistor 36).

Regarding claim 53, the Miyamoto reference teaches at column 4, lines 59-68, the signal pulse PCS received prior to sensing the contents of the non-volatile memory cell.

Regarding claim 67, the Miyamoto reference teaches an apparatus (in figure 1) comprising: means (transistor 35) for pulling a voltage of a sense input node (node 31) for a non-volatile memory cell (cell 15) to a voltage potential of a voltage source ( $V_{DD}$ ) in response to an enable signal (signal PCS); means (transistor 36) for pulling a voltage of a reference input node (node 33) for a reference memory cell (cell 18) to the voltage potential of the voltage source ( $V_{DD}$ ) in response to the enable signal (signal PCS); and means (transistor 37) for shorting a sense node of the non-volatile memory cell to a reference node of the reference cell in response to the enable signal (signal PCS).

***Allowable Subject Matter***

6. Claims 55-60 are allowed.
7. Claims 61-66 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
8. Claims 48, 49 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach the further limitation of a first kicker device coupled to a first drain bias circuit and a second kicker device coupled to a second drain bias circuit.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son L. Mai whose telephone number is 305-3497. The examiner can normally be reached on 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 308-4910. The fax phone numbers for the

Art Unit: 2818

organization where this application or proceeding is assigned are 308-7724 for regular communications and 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



05-13-2003

Son L. Mai  
Primary Examiner  
Art Unit 2818